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Zhang

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(54) **METHOD FOR BACKING UP AND RECOVERING DATA IN A HARD DISK**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,537,588 A *	7/1996	Engelmann et al.	707/202
5,924,102 A *	7/1999	Perks	707/200
5,956,745 A *	9/1999	Bradford et al.	711/137
6,047,294 A *	4/2000	Deshayes et al.	707/204
6,185,666 B1 *	2/2001	Murray et al.	711/173
6,505,216 B1 *	1/2003	Schutzman et al.	707/204
7,035,850 B2 *	4/2006	Arai et al.	707/6
2002/0069363 A1 *	6/2002	Winburn	713/200

* cited by examiner

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(57) **ABSTRACT**

A method for backing up and recovering data in a hard disk, used to back up data in the hard disk, including the following steps: partitioning a segment in the hard disk as a data backup area; backing up the partition status and at least one partition data needed to be backed to the data backup area; and locking the data backup area to forbid other application software or operation system to access it. The present invention can backup and recover the data in the hard disk safely and reliably and also can ensure the safety of the backup data.

20 Claims, 12 Drawing Sheets

